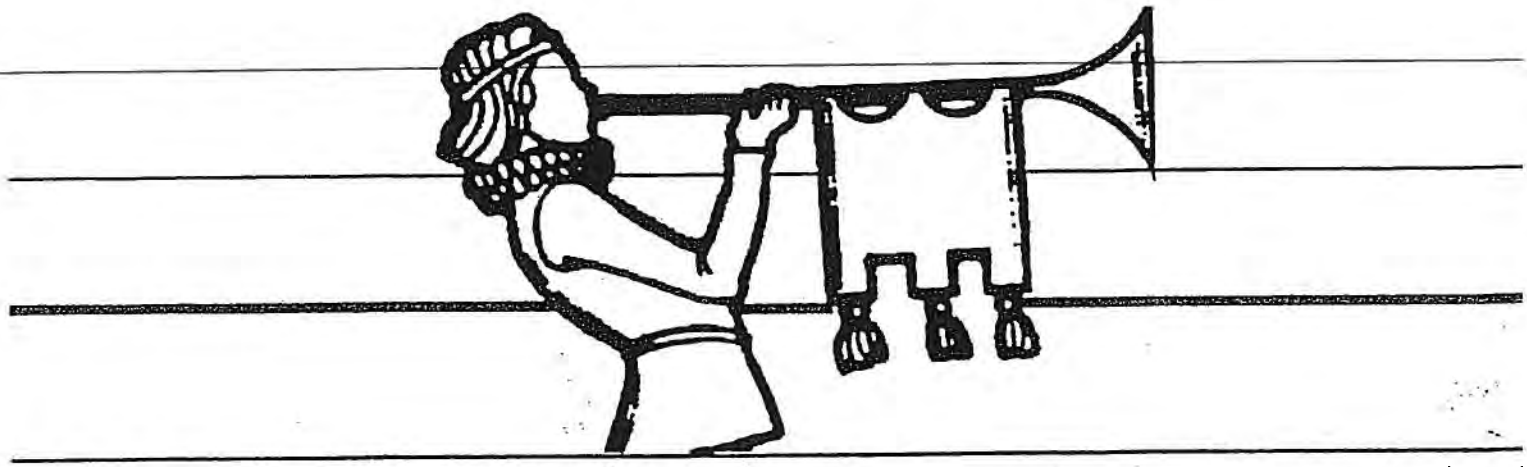


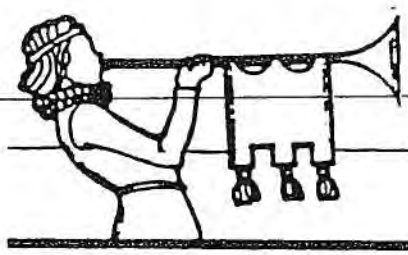
26.0 NOISE ELEMENT

Prepared For The City of Folsom
Community Development Department

By

Brown and Buntin Associates

October 31, 1988



NOISE

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NOISE

26.1 INTRODUCTION

The purpose of the Noise Element is to mitigate noise conflicts where they presently exist and to minimize future noise conflicts by the adoption of policies and implementation measures designed to achieve land use compatibility for proposed development.

The contents of a Noise Element and the methods used in its preparation have been determined by the requirements of Section 65302(f) of the California Government Code and by the "Guidelines for the Preparation and Content of Noise Elements of the General Plan (Reference 1) adopted and published by the California Office of Noise Control (ONC) in 1976. The ONC Guidelines require that certain major noise sources and areas containing noise sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions within the community. Contours may be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the day-night average level (Ldn)[1], which are descriptors of total noise exposure at a given location for an annual average day. It is intended that the noise exposure information developed for the Noise Element be incorporated into the General Plan to serve as a basis for achieving land use compatibility within the community. It is also intended that noise exposure information be used to provide baseline levels for use in the development and enforcement of a local noise control ordinance to address noise produced by non-preempted noise sources.

26.1.1 STATE POLICY AND AUTHORIZATION

Section 65302(f) of the California Government Code mandates that the General Plan for each City contain a Noise Element which is designed to identify and appraise noise problems in the community.

The State Office of Noise Control has established guidelines which require that current and projected noise levels be analyzed and quantified for the following noise sources:

1. Highways and freeways.
2. Primary arterials and major local streets.
3. Passenger and freight on-line railroad operations and ground rapid transit systems.
4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
5. Local industrial plants, including, but not limited to, railroad classification yards.
6. Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

Noise contours are required for these sources, stated in terms of the CNEL or Ldn, and may be used as a guide for establishing a pattern of land uses that minimizes the exposure of community residents to excessive noise.

26.1.2 RELATED STATE REGULATIONS

Other State Laws and regulations regarding noise control are directed toward aircraft, motor vehicles and noise in general.

California Administrative Code, Title 21, Subchapter 6, establishes noise level criteria for airports in California. These regulations apply to the airport operator, and are enforced by the County in which the airport is located. A Noise Impact Boundary based upon the 65 CNEL contour is established, and measures are specified to attain land use compatibility with respect to aircraft/airport noise.

The California Vehicle Code sets noise emission standards for new vehicles, including autos, trucks, motorcycles and off-road vehicles. Performance standards are also applied to vehicles operated on public streets and roadways. Section 216 of the Streets and Highways Code regulates traffic noise as received at schools near freeways. The Harbors and Navigation Code regulates noise emissions from new motorboats and those operated in or upon inland waters.

[1]For an explanation of terminology used in this report refer to the Glossary.

Title 24 of the California Administrative Code regulated interior noise levels within multiple-occupancy dwellings affected by noise from traffic, aircraft operations, railroads and industrial facilities. The State Penal Code (Section 415) prohibits loud and unusual noise that disturbs the peace, while the Civil Code defines public nuisance which may be caused by noise. The California Environmental Quality Act includes noise as one of the factors in determining environmental impacts.

26.1.3 RELATIONSHIP TO THE GENERAL PLAN

The Noise Element is most related to the Land Use and Circulation Elements of the General Plan. Its relationship to the Land Use Element is direct in that the implementation of either Element has the potential to result in the creation or elimination of a noise conflict between differing land uses. The Land Use Element must be consistent with the Noise Element by preventing the development of incompatible adjacent land uses, preventing impacts upon noise sensitive uses and preventing encroachment upon existing noise-producing facilities.

26.2 SETTING/ASSUMPTIONS/ISSUES

26.2.1 SETTING

Based on discussions with the City of Folsom staff regarding potential major noise sources, it was determined that there are several potentially significant primary sources of community noise within Folsom. These sources include traffic on major roadways and highways, railroad operations, aircraft operations at Mather Air Force Base, and industrial activities.

Analytical noise modeling techniques and noise measurements were used to develop generalized Ldn noise contours for the major roadways, railroads and industrial noise sources of the City of Folsom for existing (1986) and future (2006) conditions.

Analytical noise modeling techniques make use of source-specific data including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Analytical methods have been developed for a number of environmental noise sources including roadways, railroad line operations, railroad yard operations, industrial plants and aircraft/airport operations. Such methods will produce reliable results as long as data inputs and assumptions are valid for the sources being studied. The analytical methods used in this report closely follow recommendations made by ONC, and were supplemented where appropriate by field-measured noise level data to account for local conditions. It should be noted that the noise exposure contours presented in this report are based upon annual average conditions, and are not intended to be site-specific where local topography, vegetation or intervening structures may significantly affect noise exposure at a particular location.

A community noise survey was conducted to describe existing noise levels in noise-sensitive areas within the City of Folsom so that noise level performance standards could be developed to maintain an acceptable noise environment.

26.2.2 ASSUMPTIONS

ROADWAYS

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop Ldn contours for Highway 50 and major roadways in Folsom. The FHWA Model is the analytical method presently favored for traffic noise prediction by most State and local agencies, including CALTRANS. The FHWA Model is based upon reference energy emission levels for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly LEQ values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values it is necessary to determine the hourly distribution of traffic for a typical 24-hour day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Traffic data representing annual average traffic volumes for existing and future conditions were obtained from CALTRANS and Wilbur Smith and Associates as summarized in the General

Plan data base. The day/night distribution of traffic and the truck mix was based upon CALTRANS file data and Brown, Buntin and Associates (BBA) estimates. Using the General Plan data and the FHWA methodology, traffic noise levels as defined by Ldn were calculated for existing (1986) and projected future (2006) traffic volumes. Distances from the center of the roadway to Ldn contour values of 60 and 65 dB are summarized in Table 26-1. Input data are presented in the data base of the General Plan.

It should be noted that since calculations did not take into consideration shielding caused by local buildings or topographical features, the distances reported in Table 26-1 should be considered as worst-case estimates of noise exposure along roadways in the community. Noise contour maps were prepared from the data contained in Table 26-1 to allow implementation of this Noise Element. See Figure 26-1 for noise contours designated on Land Use Map.

FIGURE 26-1

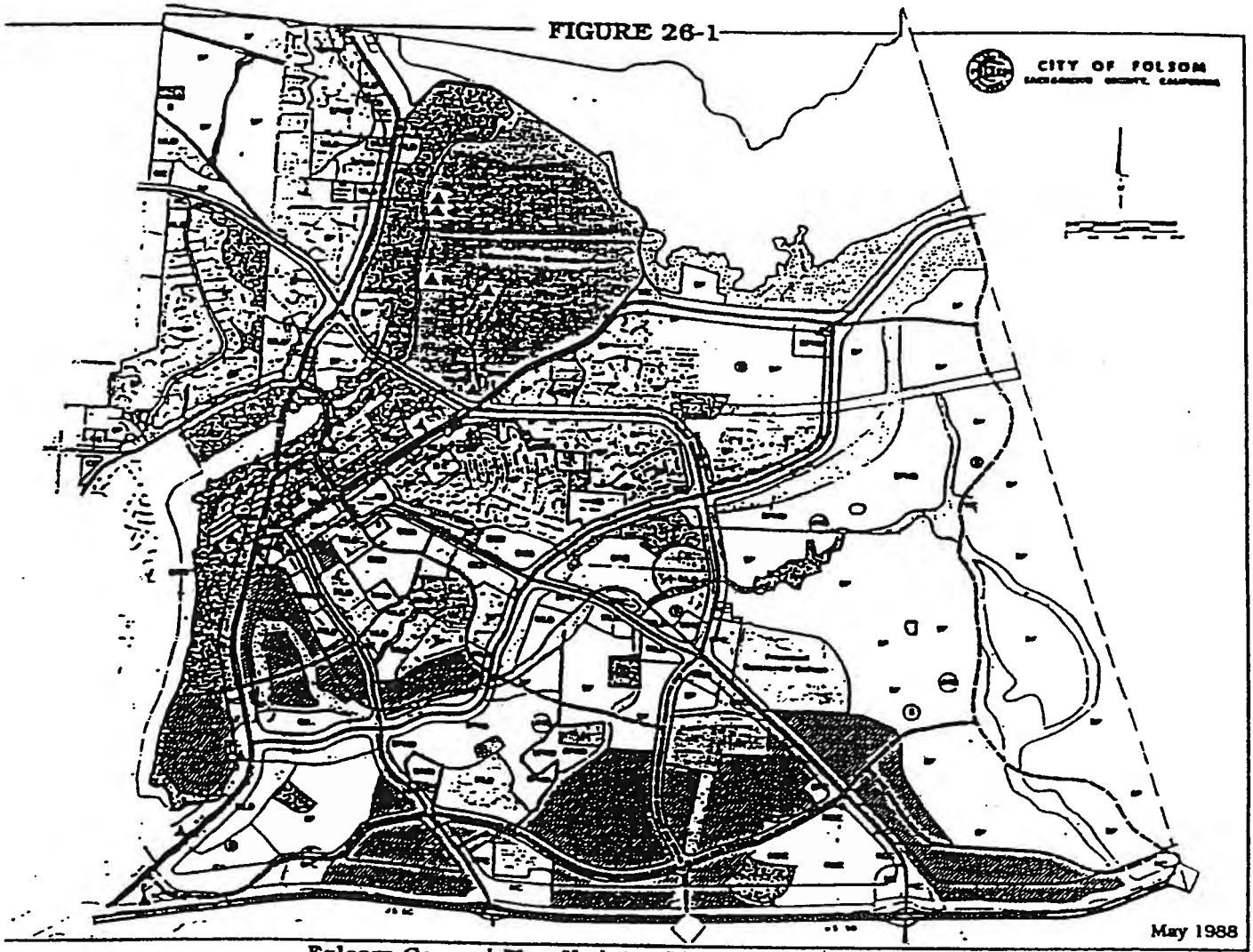


TABLE 26-1
NOISE CONTOUR DATA TO Ldn CONTOURS
DISTANCE IN FEET, CENTER LINE OF ROADWAY

SEGMENT NOS.	DESCRIPTION	CURRENT 60 Db	FUTURE 60 Db
Highway 50			
1	Folsom Boulevard to Prairie City Road	524	1,071
2	Prairie City Road to Scott Road	518	991
3	Scott Road to Sacramento County Line	530	947
Folsom Boulevard			
4	Highway 50 to Leidesdorff	194	402
Bidwell Street			
5	Folsom Boulevard to Riley Street	73	57
East Bidwell Street			
6	Coloma to Blue Ravine	63	143
7	Blue Ravine to SP RR Tracks	53	136
Scott Road			
8	SPT RR Tracks to Highway 50	35	252
Riley Street			
9	Leidesdorff to Natoma Street	93	119
10	Natoma Street to East Bidwell	55	83
Sutter Street			
11	Folsom Boulevard to Coloma	15	n/a
Natoma Street			
12	Folsom Boulevard to Folsom Dam Road	57	87
28	Folsom Dam Road to County Line	93	272
Folsom-Auburn Road			
13	Greenback Lane to Oak Avenue Parkway	127	305
14	Oak Avenue Parkway to Folsom Dam Road	114	255
27	Folsom Dam Road to County Line	101	595
Oak Avenue Parkway			
15	Main Avenue to Folsom-Auburn Road	21	
16	Folsom-Auburn to End	20	
American River Canyon Drive			
17	Greenback Lane to Crow Canyon Drive	50	67
18	Crow Canyon Drive to Oak Avenue Parkway	18	41
Greenback Lane			
19	Main Street to Madison Avenue	119	170
20	Madison Avenue to Folsom-Auburn	204	248
Prairie City Road			
21	Highway 50 to Blue Ravine Road	35	217
Sibley Street			
22	Blue Ravine Road to Figueroa Street	39	169
Blue Ravine Road			
23	Folsom Boulevard to East Natoma	39	225
Folsom Dam Road			
24	Folsom-Auburn to East Natoma	20	30
Madison Avenue			
25	Main Street to Greenback Lane	200	145
Leidesdorff Street			
26	Folsom Boulevard to Greenback Lane	92	78

AIRCRAFT OPERATIONS

Aircraft/airport noise exposures typically consist of a number of brief, relatively noisy events punctuated by long periods of relative quiet between aircraft overflights. The annoyance due to aircraft noise exposures is reasonably well predicted by using the CNEL descriptor, which averages the total noise exposure over an annual average day. In California, the 65 dB CNEL contour is defined by the Administrative Code (Title 21) as the Noise Impact Boundary for airport noise exposures, although there is some speculation that a CNEL of 60 dB is a better indicator of adverse public reaction for small general aviation airports.

For the Noise Element, airport noise exposures should be evaluated by comparison to the CNEL contours developed for Mather Air Force Base reported by the Mather Air Force Base Comprehensive Land Use Plan prepared by Sacramento Area Council of Governments (SACOG), or by the latest AICUZ report for Mather Air Force Base. These noise contours have been plotted on a map of the City, and should be considered in evaluating noise impacts in the vicinity of Mather Field.

RAILROADS

The Southern Pacific Transportation Company (SPRR) operates a switch engine locomotive on a twice-weekly scheduled basis between Sacramento and the MCLRR yard in Placerville. Called the "Placerville Local", this train carries a small number of cars between the two Cities, usually on Wednesdays and Saturdays. The cumulative daily noise exposure from this operation is less than 60 dB Ldn at 50 feet from the track centerline, based upon BBA noise measurement data obtained in the Sacramento area. On a single event basis, the maximum noise level during a train passage is about 92 dBA at 50 feet if the horn is used. SPRR line operations do not presently create a significant noise impact in the City of Folsom. No estimates of future operational levels are available from the SPRR.

INDUSTRIAL FACILITIES

The production of noise is an inherent part of many industrial processes, even when the best available noise control technology is applied. Noise production within an industrial facility is controlled indirectly by Federal and State employee health and safety regulations (OSHA and CAL-OSHA), but exterior noise emissions from industrial operations have the potential to exceed locally acceptable standards at noise sensitive land uses.

Industrial noise control issues focus upon two objectives: to prevent the introduction of new noise-producing uses in a noise sensitive area, and to prevent encroachment of noise sensitive uses upon existing industrial facilities. The first objective can be achieved by applying performance standards to proposed new industrial uses. The second objective can be met by requiring that new noise sensitive uses in proximity to existing industrial facilities include mitigation measures to ensure compliance with the same performance standards.

REPRESENTATIVE INDUSTRIAL SOURCES

The following descriptions of existing industrial noise sources in Folsom are intended to be representative of the relative noise impacts of such uses, and to identify specific noise sources which should be considered in the review of development proposals in their environs. The locations of these noise sources are shown by Figure 26-1.

J & M Cabinets: 9477 Greenback Lane: The primary noise source associated with the operation is a fan and cyclone unit used to control sawdust. This equipment operates from 7:30 a.m. to 4:30 p.m. weekdays, and occasionally for four hours of Saturdays. The noise level at the nearest residence is about 51-52 dBA. The estimated location of the 60 dB Ldn contour is shown on the noise contour maps on file at the City of Folsom.

Contact: Tom Barnett, Co-Owner (May 28, 1987)

Fischer Cabinets: 804 Reading Way: The primary noise source associated with this operation is a fan and cyclone unit which operates from 7:30 a.m. to 4:30 or 5:30 p.m. weekdays. The noise level at the nearest residence is about

57-58 dBA. The 60 dBA Ldn contour for this facility lies within 50 feet of the fan and cyclone unit.

Contact: Linda Waller, Office Manager (May 28, 1987)

• Intel Corporation: Prairie City Road at Highway 50: There are no significant noise sources associated with the Intel facility. A large cooling tower located in the southwest portion of the site produces a noise level of about 54-55 dBA at a distance of 400 feet. The 60 dB Ldn contour lies within the property boundaries.

• American River Aggregates: North of Prairie City Road: This operation consists of processing dredge-tailings for rock and asphalt production. An asphalt batch plant and a rock plant are present, each of which is a significant noise source. The facility is typically open 7:00 a.m. to 4:00 p.m., with rock processing beginning as early as 6:00 a.m. Days of operation are usually Monday through Friday, although weekend operations may occur.

According to the Plant Manager, this facility has perhaps two years remaining to operate under the current lease, as the property is proposed to be developed as an industrial park. If development occurs as proposed, the aggregate processing operation would no longer be a significant noise source. If development plans change so that the aggregate plant remains in operation, proposed noise-sensitive land uses in the plant vicinity should be evaluated for potential noise impacts.

Contact: John Kemp, Plant Manager

• Pacific Gas and Electric Substation: South of Scott Road: The noise produced by this electrical substation consists of a steady "hum" producing a constant noise level of 52 DBA at a distance of about 100 feet. The 60 dB Ldn contour for this facility lies within 100 feet of the nearest transformers and fans.

• Bay City Building Materials and Teichert Industries Ready Mix Plant: Levy road: These cement batch plant operations are capable of producing noise due to on-site front loader and heavy truck movements in delivering and arranging cement mix materials. The primary noise sources, however, are cement truck engines, which must be run at relatively high speeds to spin the cement mixing drum as the ready mix materials are loaded from the batch plant. Current operations occur during daytime hours and the Ldn 60 dB contours are located within the site boundaries and the adjacent open space. Noise levels from the cement loading operations would exceed the performance standards of the Noise Element at the property lines, however. Noise sensitive land uses should therefore not be placed in close proximity to these facilities unless an acoustical analysis has been prepared to ensure compliance with the performance standards.

• Aerojet General Corporation: Folsom Boulevard at Aerojet Road: Although located outside the Folsom City Limits, the Aerojet facility conducts noise producing operations which may affect areas within Folsom. Noise sources involved in Aerojet operations include testing of rocket engines, large hovercraft fans and high-pressure fire nozzles. Other engine testing could occur in the future. Noise produced by rocket engine testing typically include a brief loud impulsive noise at ignition, followed by several second of sustained lower noise levels. Fan and nozzle testing may consist of sustained noise levels. Testing is usually conducted during daytime hours.

Because of the variability in the nature of noise-producing Aerojet activities, it is not possible to develop representative noise level contours to address all potential noise impacts. It may be supposed, however, that noise from Aerojet operations would primarily affect the southwest portion of the City, along Highway 50. For this reason, noise sensitive development proposed for the South Folsom Planning Area between Folsom Boulevard and Prairie City Road should be required to include consideration of Aerojet noise impacts in any acoustical analysis prepared to address the noise exposures of Highway 50 and Mather Air Force Base. Aerojet has provided two noise studies to the City that are incorporated into the EIR and should be referenced in appropriate noise studies.

Contact: Ed Meyer (June 19, 1987)

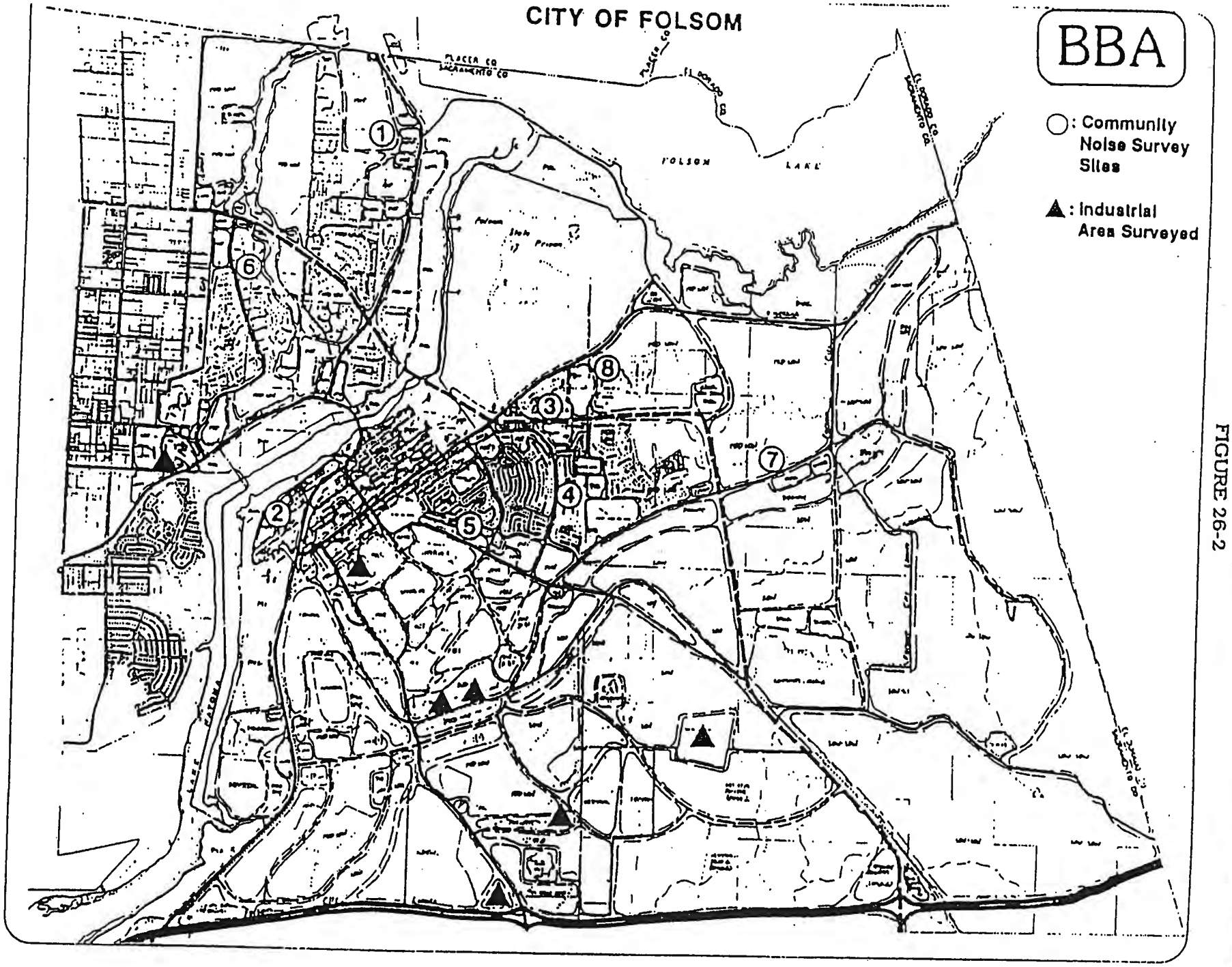

CITY OF FOLSOM
BBA
○: Community Noise Survey Sites
▲: Industrial Area Surveyed
FOLSOM LAKE
PLACER CO
SACRAMENTO CO
EL DORADO CO
1
2
3
4
5
6
7
8

FIGURE 26-2

COMMUNITY NOISE SURVEY

As required by the ONC Guidelines, a community noise survey was conducted to document noise exposure in areas of the community containing noise sensitive land uses. The following noise sensitive land uses were identified within the City of Folsom:

1. All residential uses.
2. Schools.
3. Long-term care medical facilities, such as hospitals, nursing homes, etc.

sion integrating sound level meter fitted with a 1/2 inch microphone, a Larson-Davis Laboratories Model 700 environmental noise analyzer, and a Metrosonics dB 604 environmental noise analyzer. The measurement systems were calibrated in the field prior to use with acoustical calibrators, and comply with all pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (Precision) sound level meters. The community noise survey results indicate that typical noise levels in noise sensitive areas of Folsom are in the range of 45-55 dB Ldn. Noise from traffic on roadways is the controlling factor for background noise levels in the City. In general, the areas of Folsom which

TABLE 26-2

SUMMARY OF MEASURED NOISE LEVELS AND ESTIMATED DAY-NIGHT AVERAGE LEVELS (LDN) IN AREAS CONTAINING NOISE SENSITIVE LAND USES

SITE	DESCRIPTION	LEVEL, dBA LD(1)	LD(2)	ESTIMATED LN	Ldn
1	Lakeside Village Recreation Center	50.2	45.6	36.1	47.7
2	North end of Reading Way	47.7	47.5	46.3	52.9
3	Cimarron and Fausset Courts	43.1	44.9	38.9	46.6
4	Mount Olive Lutheran Church	45.5	48.7	38.0	47.6
5	Theodore Judah School	47.2	44.9	42.5	49.7
6*	110 River Ridge Way	50.1	-	45.4	52.8
7*	125 Mesquite	45.7	-	44.1	50.8
8*	110 Willow Creek	49.3	-	46.5	53.5

*Long-Term Monitoring Site
LD LEQ during day time hours (7:00 a.m. to 10:00 p.m.)
LN LEQ during night time hours (10:00 p.m. to 7:00 a.m.)

Noise monitoring sites were selected to be representative of typical conditions in areas of the community where such uses are located. Short-term noise monitoring was conducted during three periods of the day and night on May 28, and May 29, 1987, so that reasonable estimates of Ldn could be prepared. Three long-term noise monitoring sites were established to establish day night statistical trends during the same period. The data collected included the LEQ and other statistical descriptors. Noise monitoring sites, measured noise levels and estimated Ldn values of each site are summarized in Table 26-2; monitoring sites are shown by Figure 26-2.

Community noise monitoring equipment consisted of a Bruel and Kjaer Type 2230 preci-

contain noise sensitive uses are relatively quiet except along major roadways.

Figures 26-3 and 26-4 illustrate ambient noise levels at the long-term monitoring sites over typical 24-hour weekdays.

26.2.3 ISSUES

NORTHWEST FOLSOM

Light industrial operations on Greenback Lane have the potential to result in noise conflicts at nearby residential receiver locations. Activities at the BLM and Folsom Lake SRA Corporation Yards could affect future residential development in that area. Enforcement of a noise

control ordinance would address most current concerns.

CENTRAL FOLSOM

Light and heavy industrial activities in existing industrial parks have the potential to result in noise conflicts at nearby residential areas. Noise complaints have been received regarding cabinet shops and auto buffers. Enforcement of a noise control ordinance would address most current concerns.

Activities at the Folsom Rodeo grounds have the potential to result in noise conflicts at adjacent residential areas and residential areas located across the American River. City permits for use of this facility should consider the potential noise impacts of loudspeaker systems for rodeos or concerts and other noise-producing activities.

NORTH CENTRAL FOLSOM

Aside from future traffic on major roadways, there are no apparent noise concerns in this area at present, but future developments in the adjoining East Folsom Area could affect residential receivers near Blue Ravine Road. Implementation of the specific policies of the Noise Element will minimize the creation of noise conflicts within this portion of the City.

SOUTH FOLSOM

Future residential ares within this Planning Area may be affected by noise from traffic on major roadways, aircraft operations at Mather Air Force Base, Aerojet activities and future industrial development. Implementation of the specific policies of the Noise Element will minimize the creation of noise conflicts within this portion of the City.

EAST FOLSOM

Future residential areas within this Planning Area may be affected by noise from traffic on major roadways, aircraft operations at Mather Air Force Base, and future industrial developments. Implementation of the specific policies of the Noise Element will minimize the creation of noise conflicts within this portion of the City.

FIGURE 26-3

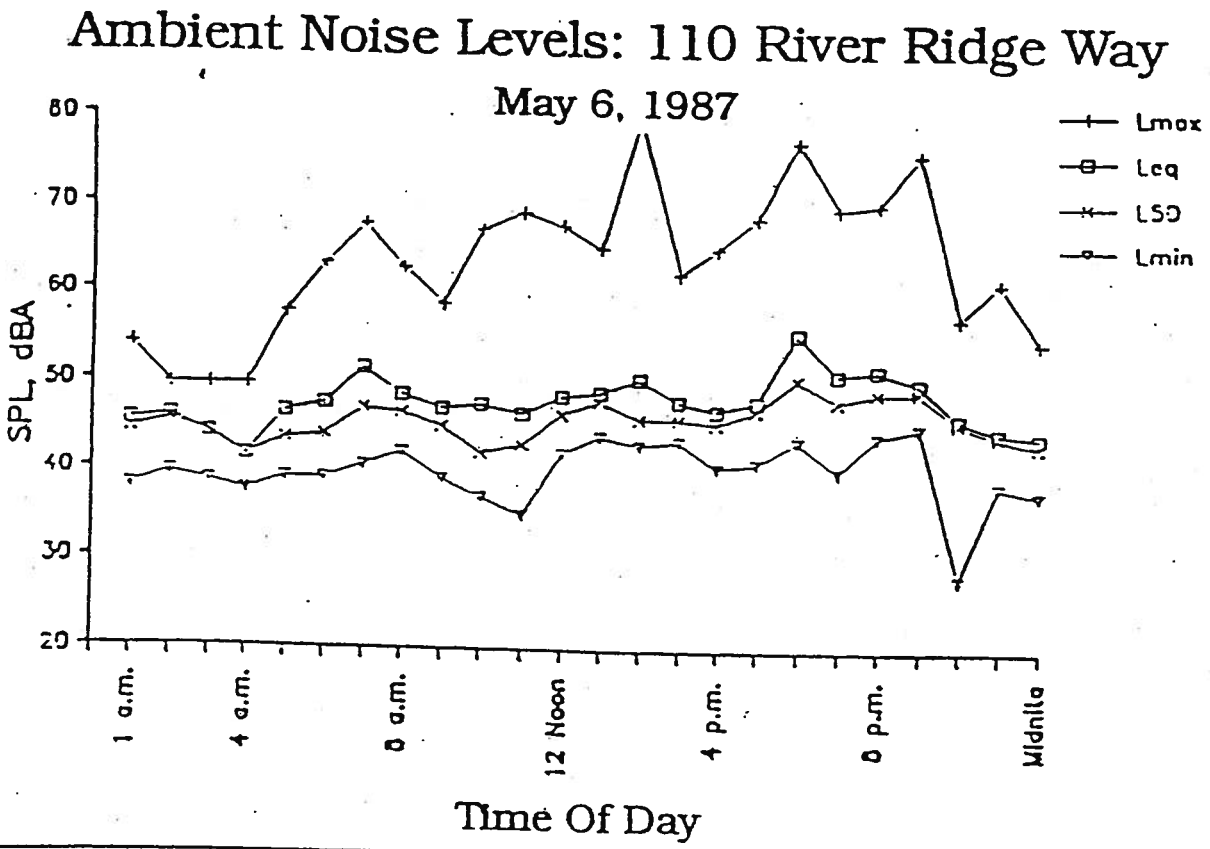


FIGURE 26-3

Ambient Noise Levels: 125 Mequite

May 12, 1987

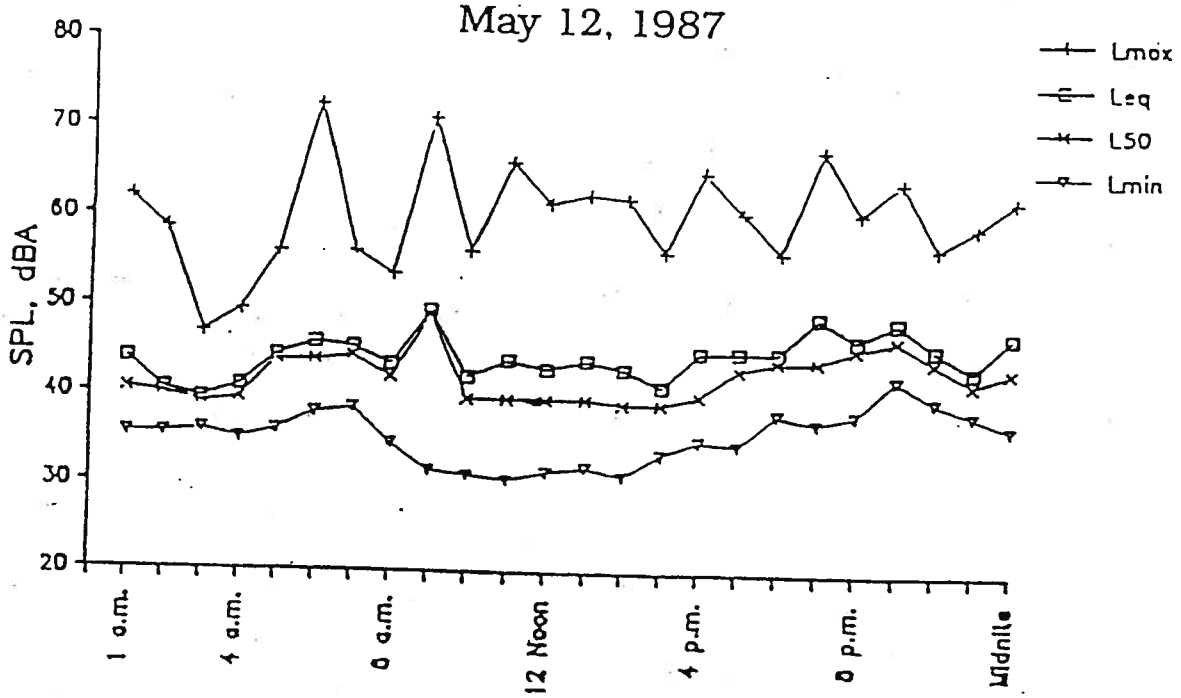
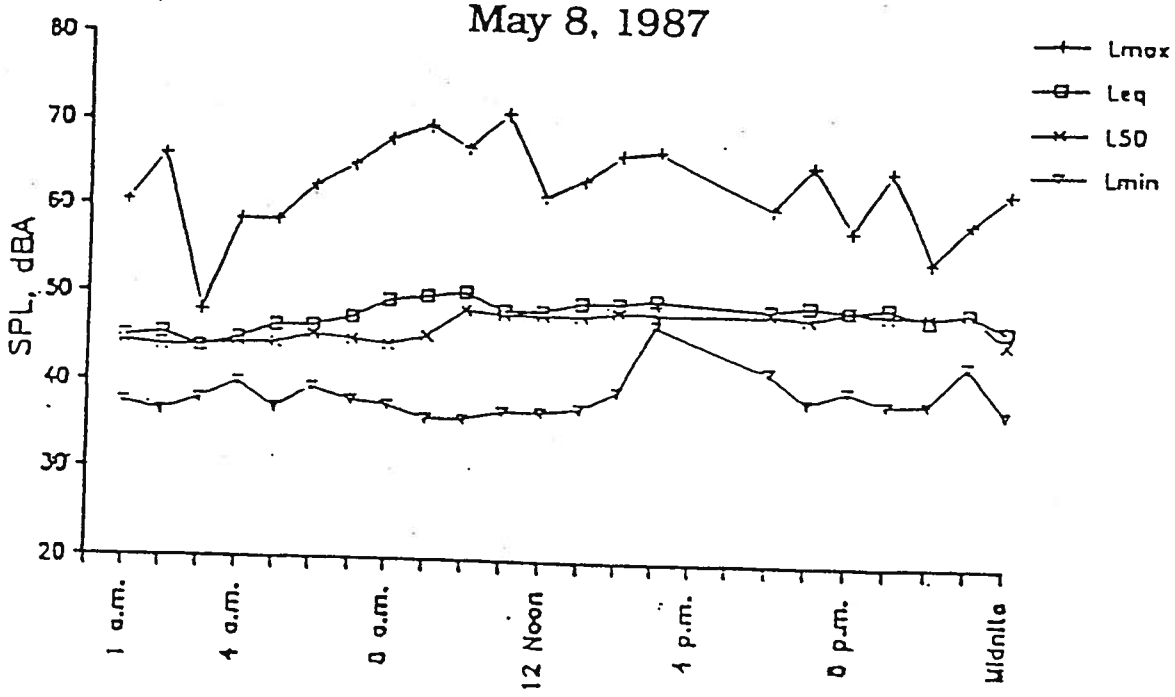


FIGURE 26-4

Ambient Noise Levels: 110 Willow Creek

May 8, 1987



26.3 NOISE ELEMENT GOALS AND POLICIES

GOAL 30

To protect the citizens of Folsom from the harmful effects of exposure to excessive noise and to protect the economic base of Folsom by preventing the encroachment of incompatible land uses within areas affected by existing noise-producing uses.

POLICY 30.1

Provide sufficient noise exposure information in the General Plan data base so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes.

POLICY 30.2

Develop and implement effective strategies to abate and avoid excessive noise exposures in the City by requiring that effective noise mitigation measures be incorporated into the design of new noise-generating and new noise-sensitive land uses.

POLICY 30.3

Protect areas within the City where the present noise environment is within acceptable limits.

POLICY 30.4

Areas within the City of Folsom shall be designated as noise impacted if exposed to existing or projected exterior noise levels exceeding 60 dB Ldn/CNEL or the performance standards of Table 26-3 of the Noise Element.

Each of the noise level standards specified above shall be reduced by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Noise from single occurrences such as the passage of locomotives; heavy trucks or aircraft should also be evaluated in terms of single event noise levels. The maximum noise level created by such an event may have the potential to result in activity interference even though the cumulative noise exposure in terms of Ldn is within acceptable limits. The potential for sleep disturbance is usually of primary concern in such cases, and should be evaluated on a case-by-case basis.

TABLE 26-3

NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AND DEVELOPMENTS

Noise created by non-transportation-related noise sources associated with new projects or developments shall be controlled so as not to exceed the noise level standards as set forth below as measured at any affected residentially designated lands or land use situated in either the incorporated or unincorporated areas. New residential development shall not be allowed where the ambient noise level due to non-transportation-related noise sources will exceed the noise level standards as set forth below:

EXTERIOR NOISE LEVEL STANDARDS, DBA

CATEGORY	CUMULATIVE NUMBER OF MINUTES IN ANY ONE-HOUR TIME PERIOD	DAYTIME 7:00 A.M TO 10:00 P.M.	NIGHTTIME 10:00 P.M. TO 7:00 A.M.
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

POLICY 30.5

New development of residential or other noise sensitive land uses will not be permitted in noise impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to:

1. For noise due to traffic on public roadways, railroad line operations and aircraft: 60 dB Ldn/CNEL or less in outdoor activity areas, and interior noise levels to 45 dB Ldn/CNEL or less. Where it is not possible to reduce exterior noise due to these sources to 60 dB Ldn/CNEL or less by incorporating a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB Ldn/CNEL will be allowed. Under no circumstances will interior noise levels be permitted to exceed 45 dB Ldn/CNEL with the windows and doors closed.

2. For non-transportation related noise sources: achieve compliance with the performance standards contained within Table 26-3.

3. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a statement of overriding considerations for the project must be provided.

POLICY 30.6

When industrial, commercial land uses or other uses including non-transportation related noise sources are proposed which would affect areas containing noise sensitive land uses, noise levels generated by the proposed use shall not exceed the performance standards contained within Table 26-3.

POLICY 30.7

Prior to approval of proposed development of residential or other noise-sensitive land uses in a noise impacted area, an Acoustical Analysis may be required. The acoustical analysis shall:

1. Be the responsibility of the applicant.

2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.

3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

4. Include estimated noise levels in terms of Ldn/CNEL and/or the standards of Table 26-3 for existing and projected future (20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.

5. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.

6. Include estimates of noise exposure after the prescribed mitigation measures have been implemented.

POLICY 30.8

The City of Folsom shall endeavor to develop and employ procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are implemented as part of the project review and building permit processes. The appropriate time for requiring an acoustical analysis would be as early in the project review process as possible so that noise mitigation may be an integral part of the project design.

POLICY 30.9

Noise level criteria applied to land uses other than residential or other noise sensitive uses shall be consistent with the standards in Figure 26-5.

POLICY 30.10

The City of Folsom shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC). Title 24 requires that an acoustical analysis be prepared for all new developments of multi-family dwellings.

condominiums. hotels and motels proposed for areas within the 60 dB Ldn/CNEL contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn/CNEL or below will be achieved. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards concerning the transmission of airborne sound and structure-borne impact noise.

POLICY 30.11

The City of Folsom shall adopt a community noise control ordinance to address noise complaints and to provide local industry with performance standards for future development and equipment modifications. The ordinance should be consistent with the model noise control ordinance contained in the data base of the General Plan.

POLICY 30.12

The City of Folsom shall actively enforce existing sections of the California Vehicle Code relating to adequate vehicle mufflers and modified exhaust systems.

POLICY 30.13

The findings and specific policies of the Noise Element shall be incorporated into the City of Folsom Zoning Code as appropriate.

POLICY 30.14

The City of Folsom shall periodically review and update the Noise Element to ensure that noise exposure information and specific policies are consistent with changing conditions within the community and with noise control regulations enacted after the adoption of this Element.

POLICY 30.15

If noise barriers are required to achieve the noise level standards contained within this Element, the following construction practices are recommended:

1. Noise barriers exceeding six feet in height relative to the roadway should incorporate an earth berm so that the total height of the solid portion of the barrier (such as masonry or concrete) does not exceed six feet.

2. The total height of a noise barrier above roadway elevation should normally be limited to 12 feet.

3. The noise barriers should be designed so that their appearance is consistent with other noise barriers in the project vicinity.

26.4 RELATED GOALS AND POLICIES

RELATED GENERAL GOALS AND POLICIES

GOAL 1
- Policy 1.10

GOAL 2
- Policy 2.1
- Policy 2.2
- Policy 2.3

RELATED LAND USE ELEMENT GOALS AND POLICIES

GOAL 16
- Policy 16.2
- Policy 16.8
- Policy 16.10

RELATED HOUSING ELEMENT GOALS AND POLICIES

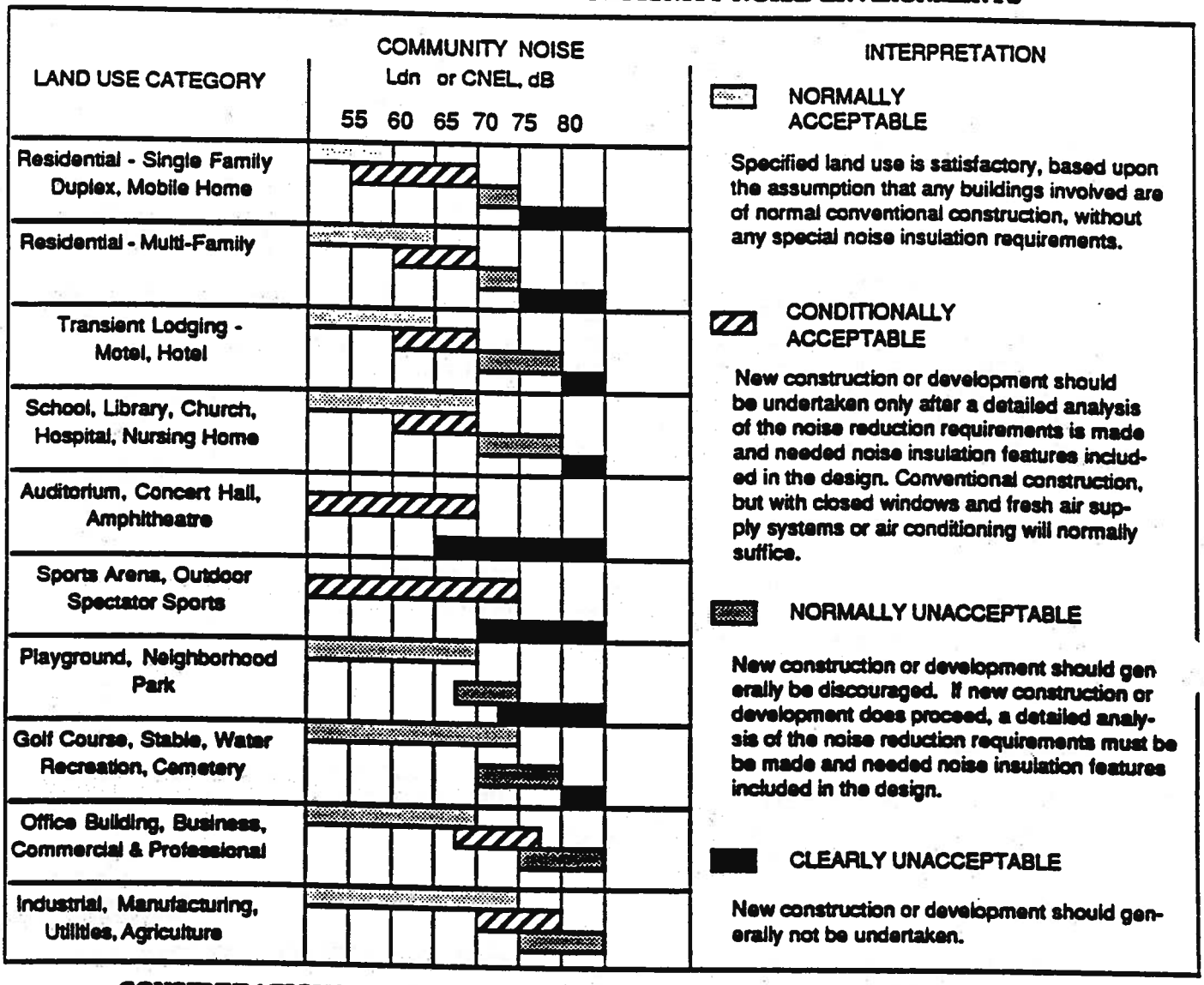
GOAL 20
- Policy 20.5

26.5 IMPLEMENTATION PROGRAM

26.5.1 LAND USE COMPATIBILITY CRITERIA

The ONC "Guidelines for the Preparation and Content of Noise Elements of the General Plan", include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The ONC guidelines contain a land use compatibility table which describes the compatibility of different land uses with a range of environmental noise levels in terms of Ldn or CNEL.

FIGURE 26-5
LAND USE COMPATIBILITY COMMUNITY NOISE ENVIRONMENTS



CONSIDERATIONS IN DETERMINATION OF NOISE - COMPATIBLE LAND USE

A. NORMALIZATION NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitable with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS:

The land use-noise compatibility recommendations should be viewed in relation to specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposes do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which to encourage land compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB-CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Office of Noise Control

Figure 26-5 is provided as a guide concerning the sensitivity of different land uses to their noise environment. It is intended to illustrate the range of noise levels which will allow the full range of activities normally associated with a given land use. For example, exterior noise levels in the range of 50-60 dB Ldn are generally considered acceptable for residential land uses, since these levels will usually allow normal outdoor and indoor activities such as sleep and communication to occur without interruption. Industrial facilities, however, can be relatively insensitive to noise and may often be located in a noise environment of up to 75 dB Ldn without significant adverse effects.

Noise compatibility criteria based upon Ldn values are to be applied to evaluating proposed noise sensitive land uses with respect to established transportation noise sources such as traffic on public roadways, railroads and airports. The applicability of Ldn based criteria for such sources has been well documented in terms of expected public response and legal responsibilities.

The noise standards in Table 26-3 are to be applied as performance standards for proposed industrial and commercial land uses and other land uses involving new locally-regulated noise sources which may affect noise sensitive land uses. Similarly, the noise standards in Table 26-3 are to be applied to determine whether a proposed noise sensitive use is compatible with an existing locally-regulated noise source.

26.5.2 SPECIFIC POLICIES

ANNUAL UPDATE

The City will update all Elements of the General Plan. An annual report will be made to the Planning Commission and City Council on the status of the General Plan Program.

IMPLEMENTS: GOAL 30 - POLICY 30.14

- Resource Groups/Agencies/Organizations

  State Office of Noise Control
  State Office of Planning and Research
  State Office and Housing and Community Development

- Responsible Agency

  Community Development Department

- Implementing Agencies

  Community Development Department
  Planning Commission
  City Council

- Target Dates: Start: November 1989
  Complete: On-Going

ESTIMATED COSTS PER YEAR

Person Hours/ Dollars	Printing	Direct	Total	Funding
80/$3,600	$300	$400	$4,300	General Fund

HOUSING ELEMENT UPDATE

Update the Housing Element to include applicable goals and policies of the General Plan.

IMPLEMENTS: GOAL 30

- Resource Group/Agency/Organization

  California Housing and Community Development Department

- Responsible Agency

  Community Development Department

- Implementing Agency

  Planning Commission
  City Council

- Target Dates: Start: December 1988
  Complete: February 1989

ESTIMATED COSTS PER YEAR

Person Hours/ Dollars	Printing	Direct	Total	Funding
120/$1,000	$200	$500	$6,700	General Fund, Developer Fees

NOISE CONTROL

Revise the City's Building Code as necessary to:

1. Require effective noise mitigation measures be incorporated into the design and construction of new noise-generating and new noise-sensitive land uses.

2. Require compliance with mitigation measures identified in acoustical analyses.

3. Enforce Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the UBC.

4. Adopt building standards and guidelines for development in noise impacted areas.

IMPLEMENTS: GOAL 30 - POLICIES 30.2; 30.5; 30.6; 30.8; AND 30.10

- Folsom Municipal Code: Title 14
- Resource Groups/Agencies/Organizations

  Regional Water Quality Control Board, Central Valley Region
  USDA Soil Conservation Service
- Responsible Agency

  Public Works Department
- Implementing Agency

  Building Inspection Department
- Target Dates: Start: January 1989
  Complete: July 1989

ESTIMATED COSTS PER YEAR

Person Hours/ Dollars	Printing	Direct	Total	Funding
20/$900	$100	$100	$1,100	General Fund

REFERENCE NOISE ORDINANCE

Revise the Zoning Code to reference the Noise Ordinance where appropriate.

IMPLEMENTS: GOAL 30

- Folsom Municipal Code: Title 17
- Resource Group/Agency/Organization

  State Division of Health
- Responsible Agency

  Community Development Department
- Implementing Agency

  City Council
- Target Dates: Start: January 1989
  Complete: January 1990

ESTIMATED COST

Person Hours/ Dollars	Printing	Direct	Total	Funding
20/$900	$200	$200	$1,300	

NOISE ORDINANCE

Adopt a Noise Ordinance to be consistent with the model noise control ordinance contained in the data base of the General Plan and which implements the specific policies of the Noise Element of the General Plan including the following measures:

1. Procedure for addressing noise complaints.

2. Provide local industry with performance standards for future development and equipment modifications.

3. Require that effective noise mitigation measures be incorporated into the design of new noise-generating and new noise-sensitive land uses.

4. Protect areas within the City where the present noise environment is within acceptable limits.

5. Designation of noise impacted areas within the City according to Policy 30.4 of the Noise Element.

6. New development of residential or other noise sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to:

   - Aircraft: 60 dB Ldn/CNEL or less in outdoor activity areas.
   - Interior noise levels to 45 dB Ldn/CNEL or less.

Where it is not possible to reduce exterior noise due to these sources to 60 dB Ldn/CNEL or less by incorporating a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB Ldn/CNEL will be allowed. Under no circumstances will interior noise levels be permitted to exceed 45 dB Ldn/CNEL with the windows and doors closed.

7. Adopt performance standards contained within Table 26-3 of the Noise Element for non-transportation related noise sources.

8. Noise level criteria shall be consistent with the Noise Element Policy 30.9.

Enforcement of the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the UBC. Title 24 requires that an acoustical analysis be prepared for all new developments of multi-family dwellings, condominiums, hotels and motels proposed for areas within the 60 dB Ldn/CNEL contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn/CNEL or below will be achieved. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards concerning the transmission of airborne sound and structure-borne impact noise.

9. Require acoustical analyses in accordance with the above paragraph and prior to consideration of proposed development of residential or other noise-sensitive land uses in a noise-impacted area. An acoustical analysis shall:

   - Be the responsibility of the applicant.
   - Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
   - Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
   - Include estimated noise levels in terms of Ldn/CNEL and/or the standards of Table 26-3 for existing and projected future (20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
   - Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
   - Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a statement of overriding considerations for the project must be provided.

10. New equipment and vehicles purchased by the City of Folsom shall comply with noise level performance standards consistent with the best available noise reduction technology.

IMPLEMENTS: GOAL 30 - POLICIES 30.2; 30.3; 30.4; 30.5; 30.6; 30.7; 30.8; 30.9; 30.10; 30.11; 30.12; 30.13; AND 30.14

- Folsom Municipal Code: New Title
- Resource Groups/Agencies/Organizations

  State Office of Noise Control
  Sacramento County Health Department

- Responsible and Implementing Agency

Community Development Department

- Target Dates: Start: March 1989
  Complete: October 1990

ESTIMATED COSTS PER YEAR				
Person Hours/ Dollars	Printing	Direct	Total	Funding
140/$6,300	$400	$800	$7,500	General Fund

GENERAL PLAN DATABASE MAINTENANCE

Maintain and update on a regular basis the database prepared for the General Plan, including but not limited to the following areas:

NOISE

Develop and continually update a database as part of the General Plan Program containing noise exposure information for the City so that noise related issues can be addressed in the land use planning process.

GROUND WATER MONITORING

Cooperate with the County of Sacramento in developing a computerized, county-managed database on water quality. Seek funding to provide for a County assisted testing program, to continue to improve information about water quality in the City.

MEDICAL STATISTICS

Cooperate with the Sacramento County Health Department to compile statistics on medical problems potentially related to hazardous materials, and support efforts to gather this information on a statewide basis..

- Resource Groups/Agencies/Organizations

State Department of Health Services
Sacramento County Health Department
State Office of Noise Control

- Responsible and Implementing Agency

Public Works Department

IMPLEMENTS: GOAL 30 - POLICY 30.1; GOAL 41 - POLICY 41.6

- Target Dates: Start: March 1989
  Complete: On-Going

ESTIMATED COSTS OVER SIX MONTHS:				
Person Hours/ Dollars	Printing	Direct	Total	Funding
36/$1,620	$100	$400	$2,120	General Fund, Development Fees EIRs

CALIFORNIA VEHICLE CODE

The City of Folsom shall actively enforce existing sections of the California Vehicle Code relating to adequate vehicle mufflers and modified exhaust systems.

IMPLEMENTS: GOAL 30 - POLICY 30.12

- Folsom Municipal Code: Title 10

- Resource Groups/Agencies/Organizations

State Motor Vehicle Department
State Air Resources Board
State Office of Noise Control

- Responsible and Implementing Agency

Police Department

- Target Dates: Start: Continuance of Existing Program
  Complete: On-Going

- Estimated Costs Per Year

No additional costs.